PUBLISHING TEXTBOOKS & TEACHERS' GUIDES FOR RWANDA'S COMPETENCY-BASED CURRICULUM

AN INTRODUCTION TO RWANDA'S TEXTBOOK AND TEACHERS' GUIDE REQUIREMENTS AND HOW THESE CAN BE PROVIDED

WARNING

- **Nothing in this presentation is compulsory for bidding publishers, editors and authors.**

- **The notes that follow are SUGGESTIONS and GUIDELINES only and are intended to focus on important issues in the development of competency-based LTMs for the new Rwandan curriculum**

- **Publishers, editors and authors must decide for themselves how to interpret the subject syllabuses in their LTMs in order to deliver an effective and practical competency-based approach to student learning**

UNDERSTANDING A COMPETENCY-BASED CURRICULUM

- **Rwanda's new curriculum is competency-based**

- **This means that it aims to deliver not just subject content and knowledge, but also to develop specified values, attitudes and competencies among all students**

- **In a competency-based curriculum knowledge is not subordinated to other things – but it should be delivered via student activities and exercises that actively use the knowledge provided. Thus, in a competency-based curriculum *"It is not just what you know that is important, but what you can do with what you know!"***

- **STUDENT CENTRED LEARNING (SCL) emphasises the need for learners to be *actively* involved in their own learning rather than being passive recipients of facts and information passed on by the teacher or learned directly from factual information provided in the textbook**

- **Using subject knowledge in practical ways and for problem solving and stimulating higher order thinking skills is fundamental in a competency-based curriculum and all approved textbooks and teachers' guides must be able to demonstrate that they encourage and support a genuine competency-based approach.**

- **Thus, every student textbook unit should provide required knowledge plus student activities and exercises that encourage topic mastery and problem solving via the use of student knowledge and skills**

- **Student-centred learning is a core methodological approach in any competency-based curriculum**

STUDENT-CENTRED LEARNING & THE COMPETENCY-BASED CURRICULUM

- The textbooks and teachers' guides written to support the new curriculum must be created to help and encourage teachers to provide opportunities for student-centred, active learning.

- They must provide easy to deliver approaches, activities and exercises which enable students to develop the specified competencies.

- SCL (sometimes called Active Learning) is a significant change from traditional forms of classroom teaching in Rwanda and other SSA countries and requires commitment on the part of the teacher and a supportive environment provided by school management.

- The right textbooks and teachers' guides will have been written specifically to support an SCL philosophy, approaches and methodologies and will provide a structure, ideas and suggestions for a wide variety of classroom activities and approaches which will enable the teacher to introduce and manage SCL effectively.

- Thus textbooks, teachers' guides and other supplementary learning and teaching materials (LTMs) are critically important components in achieving successful SCL. If the materials submitted for evaluation do not provide the support required then the textbook/teachers' guide will not be considered "fit for purpose".

WHAT IS STUDENT-CENTRED LEARNING?

- SCL places the learner at the centre of the learning process.
- It emphasises the need for learners to be *actively* involved in their own learning rather than the passive recipients of facts and information passed on by the teacher or learned by rote from the textbook
- SCL stresses discovery-based learning in which the learner learns by "doing".
- Thus, it emphasizes research, discussion, analysis, practical work, experimentation and creativity among learners
- It seeks to develop learners' skills and to increase learners' abilities to think, reason and problem solve *in addition* to the acquisition of knowledge
- It focuses on the development of both lower and higher order thinking skills
- It requires the development of pupils' responsibility for their own learning

TYPICAL SCL CLASSROOM METHODOLOGIES

SCL uses whole class teaching sparingly - usually to orient a class to their tasks or to get feedback from the whole class at the end of an activity. Typically, SCL is delivered through:

- **independent working and working in groups or pairs**
- **developing research capacity and skills in undertaking and planning projects, experiments and practical work and thus learning to work as a productive team**
- **Identifying problems and creating solutions**
- **Communicating ideas through discussion and debate**
- **Presenting results and conclusions in different ways**
- **Reflection and self-evaluation in order to identify how the learning process could have worked better**

LOWER ORDER SKILLS

Typical *lower order skills* are:

- Oral/Aural skills to enable working communication between individual students, the groups and the teacher.

- Literacy and Numeracy.

- Study skills, including memory, personal organisation, finding information, note taking, using libraries etc.

- Team working, including experience in team leadership and working as part of a team under someone else's leadership.

- Written, graphic and electronic communication skills.

HIGHER ORDER SKILLS FROM BLOOM'S TAXONOMY

The Cognitive Domain – These **s**kills revolve around knowledge, comprehension and critical thinking. Traditional education tends to emphasize the skills in this domain, particularly the lower-order objectives. There are six levels moving through the lowest order processes to the highest. These levels are (lowest first)

- *Knowledge*: Exhibit memory of previously-learned materials by recalling facts, terms, basic concepts and answers to factual questions

- *Comprehension*: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas

- *Application*: Use new knowledge. Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way

- *Analysis*: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations

- *Synthesis*: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions e.g. Production of a unique communication or Production of a plan, or proposed set of operations or Derivation of a set of abstract relations

- *Evaluation*: Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria which are either Judgments in terms of internal evidence or Judgments in terms of external criteria

THE IMPLICATIONS OF SCL FOR TEACHERS

SCL requires that teachers should

- relinquish to some degree traditional, teacher directed classroom teaching

- learn and introduce, where appropriate, new student-centred classroom learning methodologies e.g. group work, pair work, teamwork, project work, discussion time, agreement on target-setting with individual students etc

- pay more attention to practical activities and to the creation of more classroom opportunities for experimentation and problem solving

- develop the skills and techniques of the teacher as "learning manager and facilitator" rather than as "the source of all knowledge"

- actively develop the full range of student social and communications skills, which means that teachers will have to develop these skills as well.

- actively involve parents and the local community in the work of the school and in pupil learning

THE IMPLICATIONS OF SCL FOR PUBLISHERS

- **All of the above teacher implications have to be incorporated into lesson planning and thus course textbooks and teachers' guides must provide the teachers with the support that they need to plan and deliver these kinds of learning experiences.**

- **Many of the problems that have arisen in the past with the delivery of SCL throughout the system have been caused by using course materials that were not designed specifically to support SCL.**

- **The introduction of new textbook and teachers' guide evaluation and approval mechanisms should ensure that all future approved course materials will provide the targeted support that teachers need.**

RESEARCHING SCL, HIGHER ORDER SKILLS & COMPETENCY-BASED APPROACHES

- **Providing textbooks and teachers' guides for Rwanda's new curriculum will be challenging for authors and editors who have not previously published SCL and competency-based LTMs and it will require a good understanding of the principles and practices of SCL, Higher Order Skills and competency-based approaches.**

- **It is recommended that authors/editors should research and read up on these topics and should study other LTMs that have successfully delivered SCL approaches and competency-based learning**

- **At the end of this course a short bibliography of books, websites and LTMs is provided that should help authors/editors with practical examples**

CHARACTERISTICS OF A GOOD STUDENT TEXTBOOK

- **a contents list and a Contents Map**

- **a clear and easy to use page design with easy to understand headings, captions and signposts to aid learner navigation through the textbook and the individual topics. Double-page spreads for lower grades**

- **clear topic or lesson objectives, key competencies and learning outcomes aimed at the learners**

- **clear and accessible informative, explanatory or descriptive text written at the right level that presents essential topic information in a well-structured and logical manner**

- **clear and relevant illustrations, which contribute to learner understanding**

- **essential data in the form of tables, graphs etc for interpretation or illustration**

- **interesting and challenging questions addressed to the learners**

- **a menu of activities for group, pair or individual work – ideally organised for mixed abilities**

- **activities for the learners that can be used by the teacher for formative assessments of the strengths and weaknesses of individual learners**

CHARACTERISTICS OF A GOOD TEACHERS' GUIDE

- Lesson objectives, key competencies and targeted learning outcomes
- support material accurately cross-referenced to each topic/lesson in the textbook
- additional subject content beyond the content of the textbook aimed at increasing teacher knowledge and confidence
- guidelines to support lesson planning by the teacher – including sample lesson plans
- a list of the resources required to support the topic/lesson including suggestions for no cost/low cost alternative resources
- suggestions on classroom methodologies aimed at providing alternative approaches to cater for different school facilities, resources and classroom conditions
- extension material for higher performing learners and remedial suggestions for lower ability learners and those with learning difficulties
- alternative/additional exercises and activities
- Formative assessment activities and guidelines for recording results

OTHER NEW CURRICULUM REQUIREMENTS FOR TEXTBOOKS AND TEACHERS' GUIDES - 1

In the development of the LTMs to support the new Rwandan curriculum account should be taken of <u>all</u> of the following requirements, which are specified in the bid documentation:

1. Competency-based textbooks, which encourage SCL, provide plenty of student activities and provide clear opportunities for teachers and students to develop the competencies specified in each syllabus unit

2. Teachers' guides that provide inexperienced teachers with the support and encouragement needed to achieve SCL and the specified competencies, including clear guidance on how classroom activities are to be introduced, managed and assessed by the teacher

3. Teachers' guides that provide ideas for the formative assessment of student progress and clear guidelines on record-keeping and how individual student progress and achievement are assessed

4. Coverage of the specified cross-cutting issues in the LTMs

OTHER NEW CURRICULUM REQUIREMENTS FOR TEXTBOOKS AND TEACHERS' GUIDES - 2

5. Multi-ability approaches so that the LTMs make it possible for students of different abilities to progress at different rates

6. Readable textbook and teachers' guide English language. Publishers should take particular note of the English textbook language standards provided in the bid documentation. Textbooks and teachers' guides must provide comprehensible text taking into proper account the English language levels of the readership

7. Urban/Rural Differentials – publishers, authors and editors might take into account differences in availability of trained teachers and equipment between rural and urban schools. Core textbooks could be written from the viewpoint of rural schools to ensure that the curriculum/syllabuses are achievable in the time available. Additional work for well-set up schools in urban areas could be catered for in the teachers' guides

8. Positive attitudes in the LTMs to gender and SEN issues are required

9. Each textbook and teachers' guide requires a descriptive CONTENT MAP

EVALUATION REQUIREMENTS

- **Content and knowledge requirements for each subject for each level are available on the REB's websites at http://reb.rw/fileadmin/competence_based_curriculum/documents.html).**

- **Coverage of the specified content in the LTMs presented for evaluation will be mandatory and submissions will be failed if there is less than 100% coverage of the specified topics for any subject at any level.**

- **The *quality* of the content will be subject to a separate evaluation and submissions will be failed if they score less than 80%.of the total available marks**

SYLLABUS ORGANISATION AND PUBLISHING REQUIREMENTS - 1

- The detail of the expected learning is set out in the learning units section of the syllabuses. Publishers should understand the elements of the units as these have implications for how textbooks and teachers' guides should be written. These elements are:

- Headings: Topic Area and Sub-topic Area as above; Unit Number and Title; Number of lessons allocated to the unit

- Key Unit Competency: This is the competency which will be achieved once students have met all the learning objectives in the unit

- Content: This column sums up all the required learning in the unit

- Learning Objectives: In these columns the content is broken down into three categories of learning objective: These are
  - Knowledge and understanding: As in the existing curriculum, knowledge and understanding is very important
  - Skills: It is through the skills that students apply their learning and engage in higher order thinking. These skills relate to the upper levels of Bloom's taxonomy and they lead to deep rather than surface learning.
  - Attitudes and values: Truly engaging with the learning requires appropriate attitudes and values that relate to the unit.

SYLLABUS ORGANISATION AND PUBLISHING REQUIREMENTS - 2

- **Learning Activities**: The learning activities all of the three categories of learning objective as well as the basic and generic competencies and the cross-cutting issues

- **Links to other subjects**: It is important for learners to gain an understanding of the interconnections between different subjects so that learning in each subject is reinforced across the curriculum. For this reason related topics are signposted in the units and so should they be in LTMs submitted by publishers.

- **Assessment Criteria**: The assessment of whether learners have succeeded in a unit requires confirming that they have achieved the Key Unit Competency. Hence the wording of the assessment criterion is very similar to that of the Key Unit Competency.

- **NB**: Criteria for judging performance must be established beforehand, i.e. how will the teacher know that the skill competence level has been achieved? (criteria to judge performance, e.g. write correctly)

- **Materials**: This covers the equipment and materials needed for the learning activities in the unit.

BASIC COMPETENCIES

The new Rwandan curriculum organises competencies into <u>basic</u> and generic <u>competencies</u>. There are also some subject-related competencies

<u>BASIC COMPETENCIES</u>

1. Literacy

2. Numeracy

3. ICT and digital competencies

4. Citizenship and national identity

5. Entrepreneurship and business development

6. Science and Technology

GENERIC COMPETENCIES

GENERIC COMPETENCIES

1. Lifelong learning
2. Critical thinking
3. Creativity and innovation
4. Research and Problem solving
5. Communication Skills
6. Cooperation

NOTES ON COMPETENCIES

- **The bid documentation provides more detailed notes on each of the competencies specified above and publishers/editors/authors should make sure that they are completely familiar with the target syllabus objectives for each competency**

- **The overall learning map for each subject and grade level syllabus is set out in an 'overview' with student learning requirements described in terms of competencies. Each subject syllabus is composed of a series of learning units which build upon and detail the content specified in the overviews.**

- **In some cases there is a one to one match between the competencies in the overviews and the 'Key Unit Competency', in each unit. However some of the overview competencies have been divided into more than one unit and, conversely, some overview competencies have been combined into one unit.**

- **Bidding Publishers will need to identify the competencies associated with each topic and sub-topic in order to ensure that LTM units in the textbook and teachers' guide focus on the required competency for that unit and that textbook activities and the teachers' guide support and assess individual student learning in pursuit of the required competency**

LESSON PLANNING

- **The competency-based approach takes time but is not an 'add-on' to the knowledge curriculum. An integrated approach to teaching and learning is required.**

- **Thus, consistent and ongoing lesson planning is essential to ensure that the full range of classroom methodologies and learning objectives specified in the curriculum and syllabuses is addressed.**

- **The textbooks and teachers' guides must provide strong support for lesson planning and should provide learning experiences with a balance of the different skills, attitudes, values and competencies over time (i.e. not all in every learning unit), while ensuring progression in terms of the knowledge and understanding, as set out in the syllabuses.**

- **Successful LTMs will provide comprehensive sample lesson plans in the teachers' guides**

COMPETENCIES, SCL & CLASSROOM ACTIVITIES

- In the selection of classroom and student activities to support SCL and the unit key competency there are some activities that are particularly appropriate for specific competencies

- The LTMs (textbooks and teachers' guides) also need to provide a variety of classroom learning methods that will support SCL and the achievement of the key competency (a) whole class presentation and review; (b) small and large group work with some practical advice in the Teachers' Guides on how to organise effective group work taking into account the sometimes difficult classroom environments, (c) pair work and shared reading and number work, (d) silent reading, (e) story time activities, (f) productive questions and answer sessions, (g) tests and quizzes, (h) learning games, (i) individual student work, (j) undertaking and planning projects, experiments, practical work etc. and thus learning to work as a productive team, (k) identifying problems and finding solutions, (l) developing research capacity (but note lack of good libraries and laboratories and constraints on internet use by students in many schools), (m) data collection activities via questionnaires, surveys, interviews etc., (n) communicating ideas through discussion and debate, (o) analysing data and drawing conclusions, (p) presenting results and conclusions in different ways, (q) reflection and self-evaluation in order to identify how the learning process could have worked better.

- The Bid Documentation provides an Annex with suggested activities suitable for each of the curriculum competencies

- Examples are provided in the slides that follow but publishers, editors and authors may need to become familiar with all the possible activities

ACTIVITIES THAT SUPPORT LISTENING & SPEAKING

No	Activity	Comments
1.	LISTENING & SPEAKING – These activities are designed to ensure that all students actively participate in classroom activities rather than sitting passively in the classroom. Speaking and listening develop vocabulary and understanding, create interest and motivation in classroom learning and increase student confidence	
1.1	Questions and Answers	Teachers' Guide should contain guidance on how to ask good questions and could suggest a range of questions for each topic/textbook unit

1.2	Story Time – Teacher Reads Story to Class and then
	   a) Asks the class to say what they liked and disliked about the story
	   b) Asks questions to ensure good comprehension
	   c) Asks groups to retell the story in their own words
	   d) Asks groups to invent different endings
	   e) Etc.
		Some stories can be in the textbook, others in the teachers' guide or teacher can choose from a book of stories to read aloud or can use "Big Books" from their supplementary materials collections where illustrations can more easily be shown to students. From upper primary grades inferential as well as literal comprehension should be developed

1.3	News Time – Teacher appoints a different group each week to present school and local community news to the class	In lower grades the presentations can be verbal but with increased literacy the presentations should be in writing and illustrated, on posters or even digital
1.4	Songs, Rhymes, Word and Number Games	When traditional songs, rhymes are used this reinforces cultural heritage
1.5	Quizzes – in lower grades these can be between small groups and should be oral; as literacy develops they should be sometimes in written form	Quizzes get students actively involved in class and overcome the silent passivity typical of many classrooms. Teachers' Guides could provide suggested quiz questions to make life easier for the teacher

ACTIVITIES THAT SUPPORT READING & WRITING

2.	**Reading and Writing – these activities support the early development of literacy. In upper grades they are intended to improve writing skills and to develop a life-long interest in reading for information, pleasure and work**	
2.1	Silent Reading is used to develop interest, stamina and independence in reading. Time allocated for this activity should be increased as fluency and interest develops; progress can be assessed by questioning and talking to peers in groups	"Book Flood" experiments in NZ, the Pacific Islands and South-East Asia have reported very significant gains in student vocabulary acquisition, reading frequency and comprehension in periods as short as 6 months as a result of daily silent reading periods of 15-20 minutes in primary grades
2.2	Maintaining a Vocab Book	But checked by teacher monthly
2.3	Guided Story Writing – this can be achieved in many different ways; using 4-6 frame cartoons with matchstick figures is a frequently successful option OR For example, "write a short story about coming to school in the rain, which emphasizes movement and uses at least 15 different words ending in "ing"	Teachers Guides could provide sample cartoon frames using matchstick figures for teachers to copy onto the chalk board
2.4	Book Reviews – these can be organized in various ways including dramatizing parts of the book and group discussions. They should not be presented as a set form	Use the books in the school supplementary readers collection OR get groups to review a textbook unit as an aid to writing discursive text, encouraging critical thinking and as a reflection on their own learning
2.5	Making Lists for classroom walls (e.g. of local birds and animals; of student names and birthdays, of the locations in which students live etc.)	The lists can be illustrated with cut-outs from newspapers/magazines (research) or by student artwork (creativity)
2.6	Writing Reports – these will have different forms in different subjects	Teachers' Guides should provide support in terms of structure, headings and sub-headings etc. as students move towards independence
2.7	Instilling the culture of reading in students: request students to report every morning	Teachers guide should provide information on the assignment

ACTIVITIES THAT SUPPORT ICT

4.	ICT	
4.1	Research on the Internet	
4.2	Master basic applications – word processing, spreadsheets, presentation software etc.	
4.3	Data entry and data analysis exercises	
4.4	Filing and data storage exercises	
4.5	Digital Presentations	Teachers' Guide could provide examples of different styles of presentation and templates
4.6	Simple programming exercises	
4.7	Creating Charts and Graphs to present information	
4.8	Use editing software for newsletters	This also supports accurate communication skills
4.9	Using computers to solve Maths problems	
4.10	Use PC's for Science experiments	

ACTIVITIES THAT SUPPORT COMMUNICATION SKILLS

8.	Communication Skills	
8.1	Tell/Write a Story, Poem or Drama	Supports Creativity
8.2	Describe an event or situation	
8.3	Present Ideas - verbally, in writing, graphically, digitally	Supports Presentational Skills
8.4	Set Out Pros and Cons	Supports Critical Thinking and Problem Solving
8.5	Argue a Case – verbally, in writing, graphically (compare and contrast), digitally	Supports Critical Thinking
8.6	Observe, Record, Interpret	Supports Research Competency
8.7	Write Letters for Different Purposes	Upper primary onwards
8.8	Prepare your own CV	Supports Entrepreneurship in upper grades
8.9	Make photo-montages to illustrate a point	
8.10	Make posters or Power Points	

QUESTION STEMS & ACTIVITIES DERIVED FROM BLOOM'S TAXONOMY

- **The tables that follow are adapted and developed from Bloom's Taxonomy. They provide lists of verbs, question stems and activities that authors editors and publishers could use in creating competency and skill-based activities for teachers to use in class for learners at different levels**

- **The Bid Documentation provides an Annex with suggested activities derived from Bloom's Taxonomy that are suitable for the development of different higher order thinking skills.**

- **Examples of Bloom-derived activities are provided in the slides that follow but publishers, editors and authors may need to become familiar with all of the possible activities**

KNOWLEDGE-RELATED ACTIVITIES

Useful Verbs	Sample Question Stems	Possible activities
Tell	What happened after….?	Make a list of the main events
List	How many….?	Make a timeline of the main events
Describe	What was it that …..?	Make a facts chart
Relate	Can you name the….?	Make a list of the information that you can remember
Locate	What happened at….?	List all the places in the story
Write	How did you get to school in the rainstorm?	List all the problems in getting to school and your solutions to the problems
Find	What is the meaning of …?	Use a dictionary and start a Vocab notebook
Name	What are your favourite foods?	List all of the favourite foods of the group members and the frequency with which they are provided and make a chart to show the results
State	What birds have you seen today on the way to school?	Make a chart of the common birds seen around the school

COMPREHENSION RELATED ACTIVITIES

Useful Verbs	Sample Question Stems	Possible activities
Explain	Write in your own words….	Draw pictures to show an event
Interpret	Write a brief outline of…	Illustrate with pictures the main idea
Outline	What happened next…	Make a cartoon strip with matchstick men to show a sequence of events
Discuss	Who do you think will win….	Make a chart of the teams taking part
Compare	What is the difference between…	List the differences between living in the hills and living in the valleys
Predict	What would happen if …………	Write two different endings to the same story
Describe	What happened on the way to school?	Make a cartoon of your journey to school

APPLICATIONS RELATED ACTIVITIES

Useful Verbs	Sample Question Stems	Possible activities
Illustrate	Categorize animals by their characteristics	Make a chart showing different groups of animals with the same characteristics
Collect data	How many in your family?	Design a questionnaire to find out how many brothers and sisters the children have (and even ages) . Then present the collected data statistically and draw conclusions
Classify	What are the most important daily activities in the village?	Make a list of different activities and put in rank order of importance to village life
Design	How would you make something work better?	Make a collection of photographs to show how something works and how it could be made better

ANALYSIS RELATED ACTIVITIES

Useful Verbs	Sample Question Stems	Possible activities
Analyse	Which events could have happened…	Design a questionnaire to gather data for analysis
Examine	What was the main theme of …..	Design an investigation to collect evidence to form a viewpoint on…
Contrast	What other possible outcomes could there have been?	Make a flow chart to show critical stages in an activity where different outcomes could be possible
Investigate	Why did …. Changes occur	Construct a graph to illustrate the results of your investigation
Explain	Explain what happened when…	Make a decision tree to illustrate your explanation
Distinguish	Distinguish between two different approaches to the same problem	Make a poster/PowerPoint presentation of the results of the analysis
Identify	Identify the importance of different factors in determining the outcome of	Write a short report and illustrate the relative importance of different factors

SYNTHESIS RELATED ACTIVITIES

Useful Verbs	Sample Question Stems	Possible activities
Create	Create an idea for a machine to do a new job	Provide plans showing the different parts of the machine and how it would work
Invent	An improved design for your school	Provide a plan to scale to show your improved design
Compose	Write a poem about …	Put your poem into an illustrated poster or into a PowerPoint presentation
Imagine	What would happen if…?	Write a story about what you think might happen if…
Plan	If you had access to all the required resources how would you solve the problem of….	Produce a plan showing the resources you would need and how you would apply them to solving the problem. Show also how you would know if the problem had been solved
Formulate	Formulate a new recipe for a tasty meal	Write down the ingredients, quantities and methods of preparing your new meal
Devise	Devise new and unusual uses for	Prepare an advertising campaign to sell

EVALUATION RELATED ACTIVITIES

Useful Verbs	Sample Question Stems	Possible activities
Judge	Is there a better solution to…	Prepare a list of criteria to judge the solution to a problem. Indicate priority criteria and ratios
Select	Judge the value of…	Conduct a class debate about an issue of special interest
Decide	Decide if something is good or bad	Prepare a poster/PowerPoint to present 5 criteria to judge if it is good or bad
Justify	Explain and justify your attitudes to homework	Organise a class survey on homework and present the results
Argue	Your point of view about …. And defend your arguments against others who disagree	Take a class view on which arguments were best and why?
Recommend	When you have just completed a problem solving exercise recommend ways in which your approach to the problem could have	Prepare a report that clearly explains the reasons for your recommendations

FORMATIVE ASSESSMENT - 1

- The success of the competency curriculum will depend on the quality and frequency of formative assessments which gauge learners' progress towards the achievement of learning objectives.

- Formative assessment is used to identify where students are having difficulty so that barriers to learning can be overcome and so that teachers' lesson planning can be adapted accordingly.

- Textbooks will therefore need to include questions and/or activities within units that teachers and learners can use formatively. A key feature of assessment in this learner-centred curriculum is that students take responsibility for their own learning so formative assessment strategies should actively involve learners as well as teachers.

- In this curriculum, assessment focuses upon the learning objectives within each unit: i.e. the knowledge and understanding, skills, attitudes and values. Learners who are successful in meeting the learning objectives will also achieve the key unit competency.

- The basic and generic competencies which are taught across the curriculum and developed through learning activities in every subject should also be assessed formatively.

FORMATIVE ASSESSMENT - 2

- **Textbooks should be designed so that they develop all aspects of learning, including a balance of the basic and generic competencies.**

- **Teachers' Guides should offer practical guidance on how learning activities can address the range of learning objectives and the competencies.**

- **The competency approach has implications for the tasks learners will be engaged in; the questions asked of learners both in textbooks and orally by teachers; the way teachers gauge learners' progress and the way progress is recorded. The following sections provide some detail on the implications under each of these headings.**

FORMATIVE ASSESSMENT - 3

- **Knowledge is no less important in a competency curriculum but there must be assessment questions which require learners to apply their knowledge.**

Learner Tasks

- **As competencies are at the heart of the new curriculum, assessments need to involve tasks and tests that engage learners so they can actively demonstrate the full range of their abilities, including what they can do rather than just recall of facts. Achieving a competence requires a learner to have relevant knowledge, the skills to apply this knowledge and the attitudes to bring the two together successfully.**

- **Many tasks will involve learners in activities which focus on more than one competence at a time. For example, a problem-solving task may also involve critical thinking, creativity, communication and cooperation. It is therefore important that each task in textbooks should clearly direct teachers and learners to the particular competency that is being targeted so that there is an appropriate balance of all the competencies over time.**

- **Tasks should be designed so that learners progress in terms of competencies as they work through the curriculum. The level of challenge involved in each competence is determined mainly by the knowledge component so progression in terms of competencies is largely built into syllabuses. Publishers do not have to be constrained by the learning activities in the syllabuses and may wish to amend them or add to them in order to improve learning opportunities. These tasks will often be assessed through listening or observation, rather than through written answers. Guidance in Teachers' Guides on assessing competencies through observation and listening is essential.**

FORMATIVE ASSESSMENT - 4

Questioning skills

- **Questioning needs to reflect the importance of competencies in the curriculum. A successful textbook will include questions that target the achievement of competencies and the three components of competencies: the knowledge and understanding, the skills and the attitudes and values. A good Teachers' Guide will provide guidance on how questioning can engage learners and how they can target questions to develop each of the competencies and each of the components.**

- **For the generic competencies, questions in textbooks/teachers' guides must require learners to engage in problem solving, creativity and critical thinking so that they routinely use higher order thinking and develop these important competencies. They must also require learners to work with each other so that they improve their communication and cooperation competencies. Questions should also focus on developing and assessing basic and subject competencies.**

- **Although there is a place for closed questions, most questions need to be open so that they encourage learners to think for themselves, exploring possibilities, justifying solutions and accepting that there is not always one single right answer.**

- **Publishers should consider how they can provide answers to questions (where there is a right answer) or provide guidance to approaches to questions (where there is not). Teachers' guides might include an answer section or this could be covered in a different way.**

FORMATIVE ASSESSMENT - 5

Observation and Listening

- Formative assessment of competencies will often require teachers to use observation and listening to gauge learners' progress. For example, a teacher may observe group work to see how well individuals are cooperating and communicating with each other. In a problem-solving exercise, teachers may need to listen to group discussion to gauge the quality of the contribution of different participants. These techniques are unfamiliar to many teachers and guidance will be needed in Teachers' Guides to help them improve their skills.

Self and Peer Assessment

- Many of the learning activities in the units will involve group and paired work. Learners can make a considerable contribution to their own progress and that of others if they are actively engaged in formative assessment, particularly in relation to cooperation and communication. LTMs should provide opportunities for learners to self-assess and to assess their peers. This is a key element to encourage learners to understand assessment expectations and to take responsibility for their own learning.

Grading of Competencies

- Assessing competencies is clearly different from the assessment of knowledge and this should be reflected not only in the way assessment takes place but also in how it is recorded. When engaged in regular, frequent formative assessment in lessons, it is not appropriate for teachers to grade skills and competencies against a numerical scale. Instead learners should be recorded as having met, exceeded or failed to meet expectation. Hence a RAG (red, amber, green) rating such as the one shown below is one possible method.

- However, colour coding the results of formative assessments for every student in every unit could be very time consuming and publishers are encouraged to identify alternative methods of recording formative assessment results

FORMATIVE ASSESSMENT – 6
RECORDING STUDENT FORMATIVE ASSESSMENTS

Student	Literacy	Numeracy	ICT	Communication	Creativity	Critical thinking	Research and Problem solving	Cooperation
a								
b								
c								
d								

FORMATIVE ASSESSMENTS & LANGUAGE LEVELS

- **Many Rwandan learners are still L2 in speech or writing in English.**

- **This means (a) that it could be unfair/difficult for them to be assessed in English using oral and written methods which require them to say/write anything complex because they may not have the oral and written English to do so. (b) if they are assessed on this basis, the assessment may be invalid from an assessment viewpoint because the students could possess competences which they can't express in English.**

- **However, there is a positive side: there are methods of assessment which can support learners in their responses - i.e. help them say or write in English what they need to say or write in order to demonstrate a competence.**

ALTERNATIVE LANGUAGE FRIENDLY ASSESSMENT METHODS - 1

Scottish Probability Game.

- **Learners can use very simple cards with mainly numbers, not long sentences in English. They can group them in response to an activity and label them with cards showing 'unlikely', 'likely' and 'certain'. This is a very good maths activity. OK to do in English for Rwandan learners in P4, 5, 6.**

- **What they may not be able to do is talk fluently about how they arrived at the answers i.e. they can't demonstrate in English the competence 'to provide evidence for explanations etc.**

- **However, if they have successfully done the game, they are likely to possess this competence to some degree or another. They have the knowledge, but just can't show it in English because they don't have the language.**

ALTERNATIVE LANGUAGE FRIENDLY ASSESSMENT METHODS - 2

Dice Throwing Game.

- **Rwandan learners in P4+ can do this: throw the dice, record the results, construct the graph.**

- **They may need the teacher to provide some explanation about how to do these activities beforehand and the demo can be done in English because it is all highly visual.**

- **What the learners may not be able to do is talk or write <u>about</u> the graph freely in English because they may not have the language ability. They can record the data and cast it in graph form, but can't 'interpret the graph, draw conclusions and make predictions' in English.**

- **However, they may possess these competences, but just not be able to demonstrate them in English. If they have successfully done the dice-throwing and graph-constructing, it is likely that they will possess these competences.**

- **If the teacher supports their speech or writing in English, they may be able to demonstrate the competences in English, i.e. the teacher supplies sentence starters in English, the learners complete the sentences. e.g. *I predict that the spinner will probably land on number.....***

ALTERNATIVE LANGUAGE FRIENDLY ASSESSMENT METHODS - 3

Weather stations:

- **All these activities come in Rwandan Social Studies P4, at an early point in that year.**

- **Learners can do them if the teacher follows practice as outlined above. The topic is highly visual so demonstration and presentation of weather facts in English should not be problematic.**

- **Learners do all the weather measurements over time, responding in English if well supported (as above, say, with sentence starters).**

- **When it comes to assessing their competences, they will need to be supported to provide their responses in English.**

A NOTE FOR PUBLISHERS

- **Formative Assessments can be made more effective if the teachers' guides adopt the English language assessment support strategies outlined above**

CROSS-CUTTING ISSUES - 1

- **Cross-cutting issues can be used, if appropriate, as the vehicle for delivering knowledge, attitudes, skills, values and competencies in topics and sub-topics in any subject at any level**

- **Some cross-cutting issues (e.g. positive and equal presentation of gender) will be constant throughout most units in every LTM**

- **It is important that there is a good balance of all cross-cutting issues in the LTMs so that all are covered without some seeming to be more important than others**

- **Dr Joyce Musabe will be presenting the treatment and coverage of cross-cutting issues on 9th and 10th July**

- **The cross-cutting issues are listed below**

CROSS-CUTTING ISSUES - 2

Cross-cutting Issue	Description	Subjects incorporating aspects of the cross-cutting issue
Genocide Studies	Genocide Studies provides young people with an understanding of the circumstances leading to the genocide and the remarkable story of recovery and re-establishing national unity. Genocide Studies helps learners to comprehend the role of every individual in ensuring nothing of the sort ever happens again.	Social Studies, History and Citizenship, General Studies, Religious Education, ICT, Music
Environment and sustainability	The growing awareness of the impact of the human race on the environment has led to recognition of the need to ensure our young people understand the importance of sustainability as they grow up and become responsible for the world around them. Hence Environment and Sustainability is a very important cross-cutting issue. Learners need basic knowledge from the natural sciences, social sciences and humanities to understand and interpret principles of sustainability. They also need skills and attitudes that will enable them in their everyday life to address the environment and climate change issue and to have a sustainable livelihood.	SET, Social Studies, Geography, Biology, General Studies, Agriculture, Home Science, English, French, Kinyarwanda, Kiswahili, Entrepreneurship, Art and Craft, Economics, ICT, Music, Physical Education, Physics, Chemistry

CROSS-CUTTING ISSUES - 3

Gender	There is a strong moral imperative to afford every individual their basic human rights and gender inequality results in women and girls being treated less favourably than men. A strongly negative impact of unequal treatment which affects the nation as a whole is the fact that it results in women being held back and their talents and abilities not being fully realised. With a good understanding of the principles of Gender Equality, it is intended that future generations will ensure that the potential of the whole population is realised.	Social Studies, History and Citizenship, General Studies, English, French, Kinyarwanda, Kiswahili, Entrepreneurship, Economics, Literature in English, ICT, Music, Physical Education, Physics
Comprehensive sexuality education(HIV/AIDS,STI,; Family planning, Gender equality and reproductive health)	Comprehensive sexuality education which is age appropriate, gender sensitive and life skills based can provide young people with the knowledge and skills to make informed decisions about their sexuality and life style. Preparing children and young people for the transition to adulthood has been one of humanity's great challenges with human sexuality and relationships at its core. Few young people receive adequate preparations for their sexual lives. This leaves them potentially vulnerable to coercion, abuse and exploitation. Unintended pregnancy and sexually transmitted infection (STI) including HIV/AIDS. Many young people approach adulthood faced with conflicting and confusing messages about sexuality and gender. This is often exacerbated by embarrassment,, silence, disapproval and open discussion of sexual matters by adults(parents, teachers) at very time when it is most needed. Comprehensive sexuality education supports a rights- based approach in which values such as respect, acceptance tolerance, equality, empathy and reciprocity are inextricably linked to universally agreed human right.	SET, Social Studies, Geography, History and Citizenship, Biology, General Studies, English, French, Kinyarwanda, Kiswahili, Religious Education, Physical Education, ICT, Music

CROSS-CUTTING ISSUES - 4

Peace and Values Education	**The need for Peace and Values Education in the curriculum is obvious. Peace is clearly critical for society to flourish and for every individual to focus on personal achievement and their contribution to the success of the nation. Values education forms a key element of the strategy for ensuring young people recognize the importance of contributing to society, working for peace and harmony and being committed to avoiding conflict.**	**All subjects**
Financial Education	Financial education makes a strong contribution to the wider aims of education. It makes learning relevant to real life situations. It aims at a comprehensive financial education program as a precondition for achieving financial inclusion target and improves the financial capability of Rwandans. Financial education has a key role of not only improving knowledge of personal but also transforming this knowledge into action. It provides the tools for sound money management practices on earnings, spending, saving, borrowing and investing. Financial education enables people to take appropriate financial services both formal and informal that are available to them and encourages financial behaviours that enhance their overall economic well-being.	Mathematics, Social Studies, Economics, Entrepreneurship, General Studies, ICT, Pre-primary

CROSS-CUTTING ISSUES - 5

Standardisation Culture	Standardisation Culture develops learners' understanding of the importance of standards as a pillar of economic development and in the practices, activities and lifestyle of the citizens. It is intended that the adoption of standardization culture should have an impact upon health improvement, economic growth, industrialization, trade and general welfare of the people. While education is the foundation and strength of our nation, standards are one of the key pillars of sustainable economic development.	All subjects
Inclusive Education	Inclusive education involves ensuring all learners are engaged in education and that they are welcomed by other students so that everyone can achieve their potential. Inclusive practice embraces every individual regardless of gender or ability including those with learning difficulties and disabilities. The almost focus of inclusive curriculum is on ensuring participation in education of learners with different learning styles and other difficulties. To be successful, it entails a range of issues including teachers' positive attitudes, adapting the	All subjects

TEXTBOOKS AND TEACHERS' GUIDES IN THE RWANDA CONTEXT -1

- **In common with most other education systems in Sub-Saharan Africa, there are variations in facilities, infrastructure, conditions and teacher/student contact hours between schools and these differences are likely to be most pronounced between rural/remote and urban areas.**

- **Therefore student textbooks should be developed which enable <u>all</u> schools and students in Rwanda to access and achieve the required content and to develop the specified skills and competencies. The textbooks would need to be conceived to take account of only basic levels of resource provision. In practice this means that student textbooks ideally should contain the minimum work profile needed for <u>all</u> schools to meet content, skill, competency and assessment outcomes.**

TEXTBOOKS AND TEACHERS' GUIDES IN THE RWANDA CONTEXT -2

- **In order to make provision for gifted students and other students with exceptional abilities, some enrichment activities may be provided in the Teachers' Guide. The same could be achieved with suggestions for remedial activities for low achieving students provided in the Teachers' Guide.**

- **In this connection, additional work for schools with higher resource profiles could be provided via more extensive teachers' guides, which would provide a range of activities suitable for achieving student competencies in schools with and without computer labs, science labs, libraries, internet connectivity etc. This would require a "layered" approach to activity suggestions in the teachers' guide as follows…**

- If you have a science lab do this…
- If you have a science kit try this…
- If you have no science lab or kit then do the following…

TEXTBOOKS AND TEACHERS' GUIDES IN THE RWANDA CONTEXT - 3

To help and positively encourage teachers to use the teachers' guide in support of the active, learner-centred and competency-based new curriculum, the following teachers' guide strategies could be considered by authors, editors and publishers.

1. The use of step by step illustrations where these can explain processes more effectively than continuous text

2. Unit by unit lesson plans

3. Guidelines for assessment of students' progress

4. Extended simplified vocabulary lists in the teachers' guide in addition to the ones in the textbooks

5. Kinyarwanda cultural norms, names or values, e.g. ubupfura, inyangamugayo, gukunda igihugu, ubutwari, ndi umunyarwanda, etc may in accordance with the language policy be presented in Kinyarwanda without translation into English.

TEXTBOOKS AND TEACHERS' GUIDES IN THE RWANDA CONTEXT - 4

6. The use of larger than usual type sizes and clear typefaces in recognition of the fact that many teachers will be living in premises and preparing lessons in the evenings where the lighting may be poor and larger clear print will be helpful.

7. Guideline or checklist of Health and Safety practice in the classroom, especially for Science experiments

8. The use of "lay-flat when open" binding styles so that it is easy for the teacher to use the teachers' guide actively in class

9. The use of loose-leaf, ring-binder style teachers' guides might be considered although these would be expensive, but they would allow teachers to insert their own notes and ideas into the teachers' guides at the appropriate places. This would also allow for the assessment tests included in the teachers' guides to be easily removed for photocopying and the issuing of assessment tests to students

TYPICAL LOW COST/NO COST MATERIALS FOR TEACHERS TO COLLECT

- **Tins** – all shapes and sizes, cleaned and all rough edges filed away. These can be used to grow things in, for weighing exercises, sinking and floating etc

- **Bottles, tumblers, bowls and jars** – glass and plastic, all shapes and sizes. These can be used in the same way as tins. Transparent containers are useful for some science activities

- **Reeds** – can be used for making measuring sticks

- **Pieces of Wood** – these can be used for many activities and can be used for making simple equipment such as a weighing balance. Soft wood, which is easy to work, is best.

- **Old Magazines and Newspapers** – Collect pictures of wildlife or places that learners cannot see for themselves e.g. a power station or an airport or a railway station or an enlarged picture of a bee

- **String or Thread** – can be used for measuring activities and for constructing other simple items of equipment

- **Bottle Tops, Tree Seed**s – used as units of weight, measurement and counting

- **Feathers, Clean Animal Bones, Animal Teeth etc** – for observation in relation to biology and natural science topics

- **Match Boxes, Cardboard Boxes, Cardboard Tubes, Bic or Biro pen cases, paper, glue etc** – all can be used in making models

- **Plastic Tubing** – for water activities

HIGH PRIORITY TEACHING & LEARNING AIDS THAT SHOULD BE IN EVERY SCHOOL

- **Hand lenses** – they are a great aid to observation for science and art
- **Equal Arm Balance and Weights** – for accurate weighing for science experiments
- **Measuring Tape and Rulers -** for all large and small scale measuring
- **A Thermometer** - alcohol-filled if possible and ranging from -10 degrees C to +110 degrees C
- **Candles** – for heating objects and for observation
- **Torch Batteries, Bulbs, Magnets and Wire** – for all activities relating to electricity
- **Office Equipment** – scissors, Sellotape, paper (including poster card for wall posters) , pins, drawing pins, paper clips, rubber bands, glue, felt tip pens etc will be used by all subjects at all levels
- **Maths Blackboard Instruments**

SAMPLE HEALTH & SAFETY CHECKLIST FOR SCHOOL GARDENS

A school garden is a useful learner activity and an important learning aid for science, health and nutrition and agriculture – but it needs to be properly planned and managed. Good textbooks and teachers' guides will provide detailed guidance on this

MULTI-ABILITY PRESENTATION

- **The textbooks and teachers' guides will be expected to provide opportunities and ideas for work suitable for different student abilities incorporating extension activities for faster learners and reinforcement activities for students with learning difficulties. The multi-ability component will also be part of the bid evaluation criteria and process.**

- **Publishers will need to decide where the multi-ability components will be located – either in the student textbook or in the teachers' guide – or a combination of both.**

GENDER

- **Textbooks and teachers' guides must avoid any kind of gender stereotyping and should ensure that text and illustrations demonstrate gender equality at school, in work, at leisure and in the pursuit of opportunities. This will also form part of the evaluation.**

SPECIAL EDUCATION NEEDS (SEN)

- **Text, illustrations and activities in textbooks and teachers' guides should show positive images of the active inclusion of disabled people in school, in the community and in work. This will also form part of the bid evaluation.**

- **All Teachers' Guides should include a brief introductory statement that teachers should emphasise this message and include students with special educational needs in classroom activities as much as possible**

THE CONTENT MAP - 1

- **A <u>Content Map</u> is a required mandatory component in all teachers' guides**

- **It is optional for a Content Map to be part of students textbooks and decisions on this are at the discretion of bidding publishers**

- **The Content Map is a summary of the Contents of the Student Textbook**

- **A Sample Content Map is provided below**

SAMPLE CONTENT MAP - 1

	Unit 1 Bringing-Up Children	Unit 2 Choosing a Career	Unit 3 First Aid
Number of Periods	3 + homework	3	3
Introduction	Good and not so good examples of child upbringing. The key issues in good upbringing. Different societies have different views on bringing-up children	Decisions for School Leavers - Further Education or joining the World of Work	Common Injuries and how to treat them
Classroom Organisation	Whole-class orientation then group work	Whole class orientation; individual work and then working in groups	Whole class orientation; then working in groups
Equipment Required	Paper and pens <u>or</u> PC and printer	• Internet Access • School or Public Library Access • Camera for illustrations	• Paper and pens <u>or</u> • PC and Printer • Camera for illustrations?

SAMPLE CONTENT MAP - 2

Activities	• Group discussion on (a) what parents think is good upbringing; and (b) what students think is good upbringing • Design of a survey or questionnaire to identify parent and student attitudes • Analysis and conclusions from data collected • Presentation of findings via a poster, report or PPT	• Research into pros and cons of FE v Work • Research into career opportunities and qualifications req'd • Personal assessment of suitability for different careers • Prep'n of a personal CV	• Visit to a local clinic or hospital <u>or</u> a school visit by a nurse • Taking notes on visits • Preparation of an illustrated booklet on how to deal with common injuries in school and at home
Competencies Practiced	• Survey design • Data collection methods • Data analysis • Presentation of findings • Team work	• Research • ICT/Digital Skills • Creativity • Communication	• Team Work • Communication Skills • Research
Language	• Designing a survey	• Writing a CV	• Discussion in Groups

SAMPLE CONTENT MAP - 3

Vocabulary Acquisition		• Careers terminology • Job-related vocab	• Parts of the body • Clinical terms
Numeracy	• Statistical analysis • Graphic representation of data		
Study Skills	• Choosing the right questions to get the data required	• Organizing information	• Note-taking • Organisation of ideas for presentation
Revision		Revision exercises provided	
Assessments	A formative assessment task of data collection competencies and presentation of findings	A formative assessment of creativity and communication competencies	A formative assessment of the ability to work successfully in teams
Learning Outcomes	• Understanding that parents and children have different viewpoints • Understanding child rearing in a local context • Practice in survey design and data collection • Interpreting data, drawing conclusions and presenting results	• How to prepare a CV • Sources of Information on careers • Personal assessments of interests and qualification	• Practical knowledge on how to treat injuries • A Guide to treating common injuries • Team work

ENGLISH TEXTBOOK LANGUAGE STANDARDS – 1

- Subject textbooks written in English should not assume language levels beyond the grade level specifications contained in the syllabuses. Thus, the textbook language should provide simple, direct and easily understandable text appropriate to the language and interest levels of the students and should conform always to the standard rules of the English language. The language used should also convey relevant social messages and positive values relevant to the specified competencies and to the crosscutting issues.

- REB working closely with specialist stakeholders has developed the following accessible textbook language criteria, which publishers must meet. Publishers who fail to meet these criteria for submitted textbooks, teachers' guides and supplementary materials will be disqualified.

- The following requirements are intended to guide authors and publishers and will form the basis of the evaluation of textbook language readability.

TEXT LENGTH & SENTENCE LENGTH

Reading passages

- A 'reading passage' is any piece of text which learners are required to read and on which exercises and activities for students may be based. At P4, most learners' English language level in Rwanda is elementary; therefore texts at P4 should reflect this situation. Reading passages should be written at increasing levels of length and complexity from P4 up to S6.

- **Text Length**

- Reading passages at P4 should not be more than 50 words long on average.

- Reading passages from P5 to P6 should not be more than 100 words long on average.

- Reading passages from S1 to S3 should not be more than 300 words on average.

- Reading passages from S4 to S6 are unrestricted in length.

- **Sentence length**

- Sentences from P4 to P6 should be no more than 10 words long on average.

- Sentences from S1 to S3 should be no more than 15 words long on average.

- Sentences from S4 to S6 are unrestricted in length.

SUBORDINATE CLAUSES & TEXT STRUCTURE

Subordinate clauses

- From P4 to P6 there should be no subordinate clauses.

- From S1 to S3 the number of subordinate clauses should be limited.

- From S4 to S6 there are no restrictions on the use of subordinate clauses.

Text structure

- From P4 to S6, all reading passages should be well organized and have a clear structure. The following items can contribute to creating clear structure and a well-organised text and the effective use of the items listed below will be part of the language readability evaluation.
  o paragraphs
  o sub-headings
  o numbering
  o bullet points
  o connecting words/phrases, e.g. *then, so, for example, however*

SOME EXAMPLES OF TEXT AND SENTENCE LENGTH

There are 3 types of soil:

- loam soil
- sand soil
- clay soil

We use loam soil for growing crops. We use sand soil for building. We use clay soil for making pots.

This demonstrates for P4

- **Short text length (35 words)**
- **Short sentence length (Av 7 words)**
- **No subordinate clauses**
- **Use of bullets**
- **Repetition – (3 bullets use the same structure; the last three sentences also use the same structure, which also reflects the order of the bullet**

EXAMPLES OF THE USE OF PARAGRAPHS AND HEADINGS

The district needs money to provide social services. The money comes from different sources.

Taxes
People pay money to the government

Donations
Some individuals and organizations give money to the government.

Loans
The government borrows money to provide social services.

Private investment
Private investors support some social services.

This example demonstrates the use of paragraphs and headings to break up the text and allow the reader to see the text structure

EXAMPLE OF THE USE OF NUMBERING

People benefit from social services in different ways:

1. Children and adults learn how to read and write at school.

2. Sick people get treatment at hospitals and health centres.

3. People keep their money in banks.

4. People send and receive letters and parcels from post offices.

5. People talk to friends and relatives using telephones

6. The police protect people's life and property.

This example shows how numbering can achieve the same thing as headings and bullets

1. The musculoskeletal system

The human body performs the basic life process of interaction. It detects information about the environment and also reacts to that information. This involves various parts of the body, such as the sense organs, the nervous system and the musculoskeletal system.

3.1 The musculoskeletal system is composed of many muscles and bones. It lets you move different parts of your body and get around from one place to another.

The functions of the skeleton

Humans have got an internal skeleton. It is made of 206 different bones. The skeleton performs three main functions:

- It supports the body and helps to keep its shape.
- It protects the body's soft, internal organs, like the brain, heart and lungs.
- It is connected to muscles that move the different bones.

3.2 Bones are made of bone cells that form bone tissue. These cells can grow and reproduce to repair broken bones.

Joints are parts of the skeleton where two or more bones are connected. In some joints, there are elastic tissues called ligaments that keep the bones together.

Skeleton | Muscles

The musculoskeletal system.

EXAMPLE OF EFFECTIVE TEXT PRESENTATION SUITABLE FOR L2 STUDENTS

The page illustration above demonstrates

- **Short text length (161 words)**

- **Short sentence length (average 11 words)**

- **Limited number of subordinate clauses (3)**

- **Text structure including headings, sub-headings, numbering, paragraphs, bullets**

- **Repetition of cells, bones, joints**

- **Highlighting key words and concepts**

VOCABULARY SUPPORT

Vocabulary

From P4 to S6, learners should be given help with unfamiliar vocabulary in a reading passage. This can take any of the following forms:

- **Limit the number of unfamiliar words in a reading passage; this includes both subject-specific words (such as *translucent, opaque,* etc) and general academic words (such as *increase, transmit*).**

- **Include activities to help learners learn key words, such as gap-filling, diagram-labelling etc**

- **Include visuals which illustrate concepts**

- **Include a glossary.**

- **Define words in the reading passage.**

- **Key words may be highlighted, e.g. by using bold or colour highlighting.**

PROVIDING READING SUPPORT IN TEXTBOOKS

Reading support activities

- From P4 to S6, for every reading passage there should be a reading support activity. Reading support activities are those which help learners read the reading passages. They include gap-filling, text and picture matching, chart-filling, etc.

Visuals

- From P4 to S6 visuals should be used wherever possible or appropriate to illustrate concepts in a reading passage.

Talk and writing support

- From P4 to P6 in every unit/chapter, all tasks which require learners to talk or write should be supported by activities. Activities which support talk and writing include substitution tables, sentence starters, tables, model sentences etc.

- From S1 to S3 in every unit/chapter, a majority of tasks which require learners to talk or write should be supported by activities.

- From S4 to S6 in every unit/chapter, some talking and writing activities should be supported.

Activity 26: Reading about uses of soil

Look at the pictures on pages 10. Read the text and match the types of soil with the pictures.

There are 3 types of soil:

- loam soil
- sand soil
- clay soil

We use loam soil for growing crops. We use sand soil for building. We use clay soil for making pots.
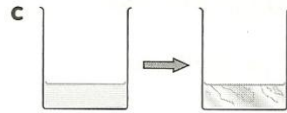

A

B

C
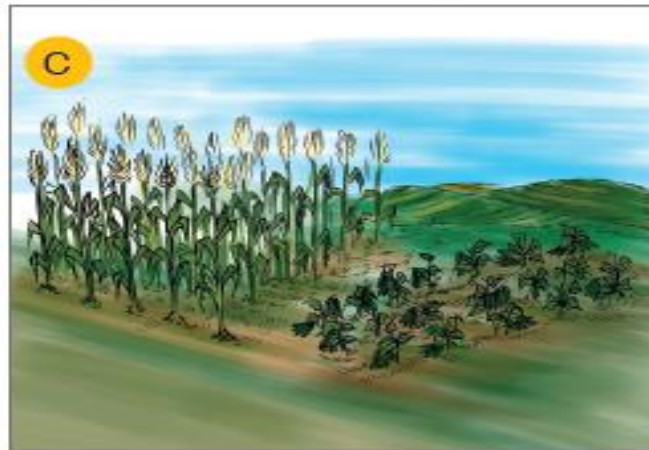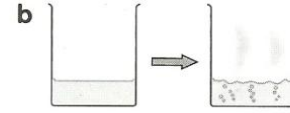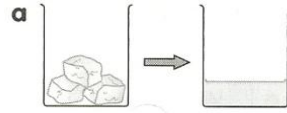
Changing state

1. Match each of these diagrams to the change of state it shows. Draw lines

boiling

freezing

condensing

melting

a

b

c

d


1. Copy and complete these sentences in your notebook.

   a) The _____ supports the body and helps to maintain its _____ too.

   b) When bones form _____, elastic _____ keep the bones together.

   c) _____ cells can _____ and relax to become _____ or longer.

   d) Non-elastic fibres called _____ connect some muscles to _____.

   e) Our bones are made of many bone _____ that form hard bone _____.

Equilateral triangle
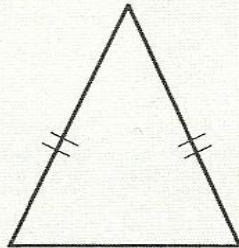Three sides are equal.
Three angles are equal.
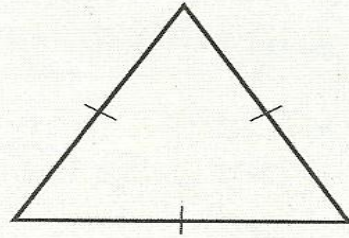
This is an ....triangle.

It has .... equal angles.

It has .... equal sides.

Isosceles triangle
Two sides are equal.
Two angles are equal.

This is an ....triangle.

It has .... equal angles.

It has .... equal sides.

Activity 14: Reading and writing about community needs

Match the beginnings and endings of the sentences and write them in your exercise books.

1.	We need food	a)	to keep us healthy
2.	We need schools	b)	to protect us from rain, cold and heat
3.	We need medical care	c)	to give us energy
4.	We need houses	d)	to make us warm and smart
5.	We need clothes	e)	for drinking and washing
6.	We need water	f)	to get education

Activity 23: Reading about the transmission of light

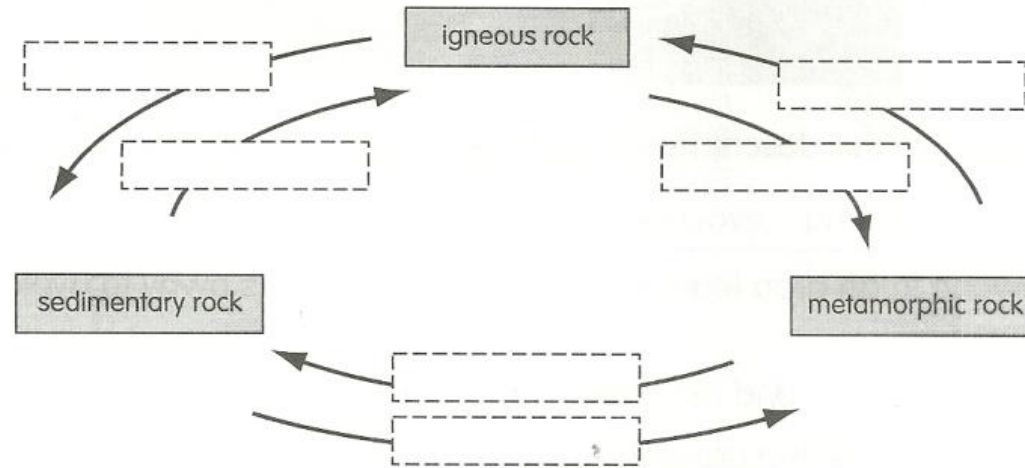Copy the table below in your exercise books. Tick in the correct box.

object	transparent	translucent	opaque
stone			
glass			
book			
juice bottle			
water			
wall			

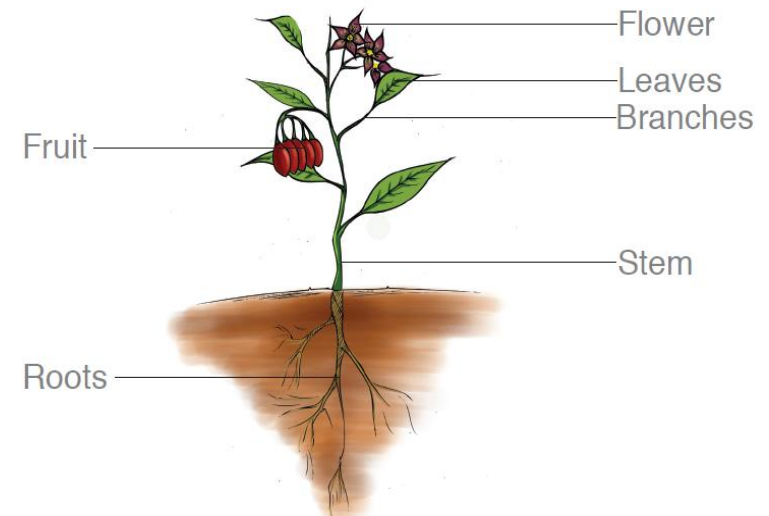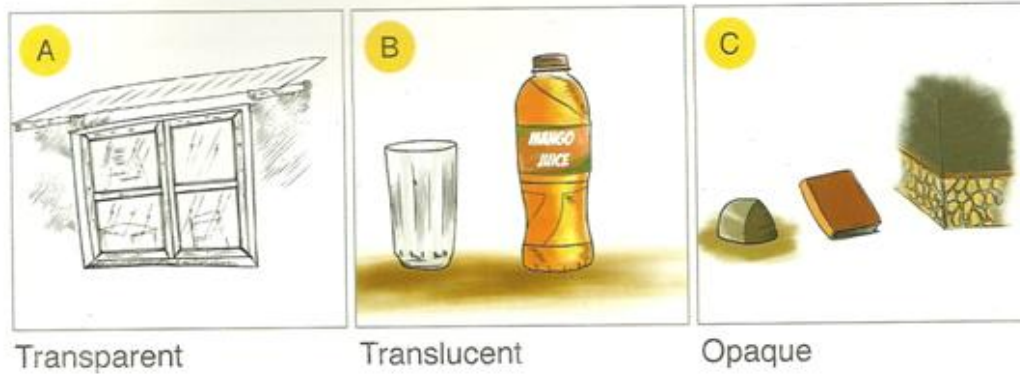**3.** Write these processes in the correct places in the rock cycle. You will need to use each group of words twice.

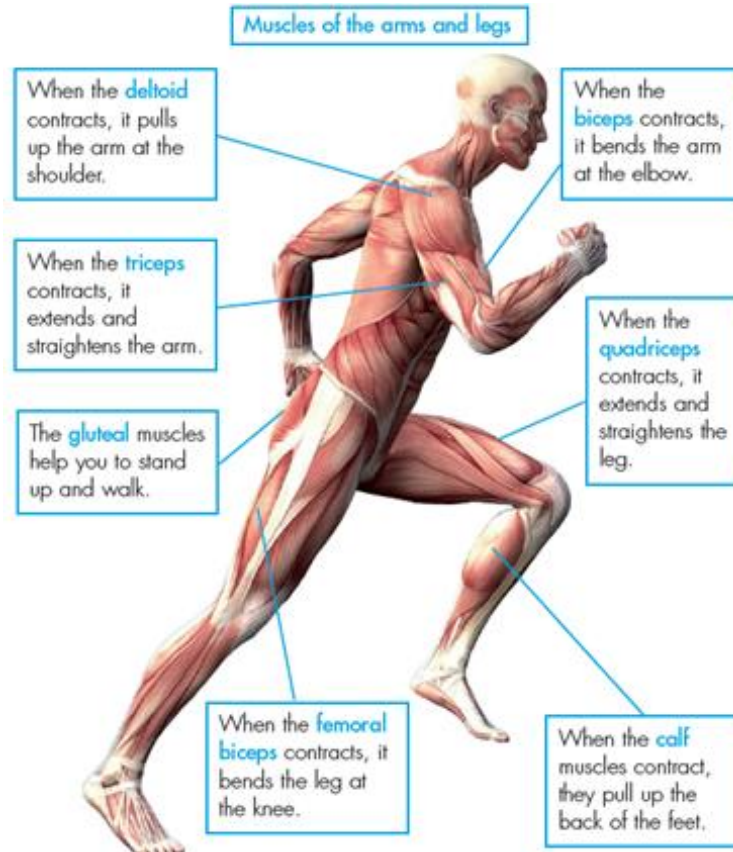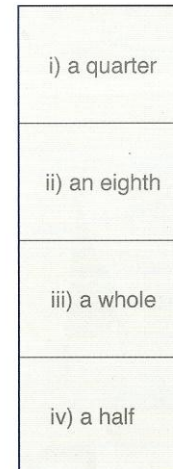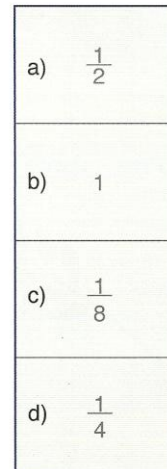| weathering, erosion and sedimentation | melting, cooling | heat, pressure |

igneous rock

sedimentary rock

metamorphic rock

USING VISUALS AND LABELLING

Transparent   Translucent   Opaque

Flower
Leaves
Branches
Fruit
Stem
Roots

USING LABELLING TO AID READING AND COMPREHENSION

Muscles of the arms and legs

When the deltoid contracts, it pulls up the arm at the shoulder.

When the biceps contracts, it bends the arm at the elbow.

When the triceps contracts, it extends and straightens the arm.

When the quadriceps contracts, it extends and straightens the leg.

The gluteal muscles help you to stand up and walk.

When the femoral biceps contracts, it bends the leg at the knee.

When the calf muscles contract, they pull up the back of the feet.

LABELLING & MATCHING WORDS WITH VISUALS

2. Label the pictures.

a) [ ]

b) [ ]

A			
B	a) $\frac{1}{2}$		i) a quarter
C	b) 1		ii) an eighth
D	c) $\frac{1}{8}$		iii) a whole
	d) $\frac{1}{4}$		iv) a half
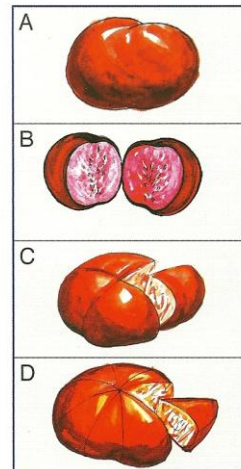
COMPETENCY-BASED RESEARCH RESOURCES - 1

- All of the titles listed below have been recommended by subject experts as containing good ideas for activities, exercises and games that can be used in class to support the development of a wide variety of student competencies.

- We have checked to ensure that all the titles listed here are available for purchase at least on Amazon

- Some of the titles are out of print (these are marked with an *) but second hand copies are still available for sale from Amazon, although this does not necessarily mean that they are cheap. For example, the second hand copies of the Teachers' Guides to Thinking Through Science are in great demand and second hand prices for copies in good condition are now considerably higher than the original published prices

- This short bibliography of textbooks, teachers' guides and resource books is intended to give authors, editors and publishers ideas for their bid submissions and will be added to as time allows

COMPETENCY-BASED RESEARCH RESOURCES - 2

MATHS

- Janet Rees   Fuzz-Buzz: 101 Spoken Numeracy Games Ideal for Mental Maths
- Jane Portman & Chris Lane   The Maths Teachers Handbook*   VSO Books
- John Taylor   Maths Activities & Games for 5-14
- Scottish Primary Maths Group   Delivering the Curriculum for Excellence: Second Teachers Book
- SPMG   Heinemann Maths 3 Teachers Notes
- SPMG   Heinemann Maths 3 Problem Solving Activities
- Singapore Maths Mastery Programme – www.mathsno problem.co.uk/blog/mathematics-mastery/

COMPETENCY-BASED RESEARCH RESOURCES - 3

SCIENCE

- **Arthur Cheney et al** **Thinking Through Science; Book 1 Teachers' Guide*** **John Murray**

- *Hodders, the publishers of Thinking Through Science have generously agreed to provide CPMD with copies of the CDs of exercises, activities and digital templates originally published to accompany the Teachers' Guides, on the understanding that their copyright will be respected and that the CDs will be used by CPMD for ideas only and not for direct copying or plagiarization. These CDs will be delivered after the workshop*

- **H Childs & Chris Lance** **The Science Teachers Handbook*** **VSO Books**

- **Alistair Smith** **The Usborne Big Book of Science Experiments**

- **Science Progress plus Teach Better**

- For *Science Progress* there are two student's books which include questions to test understanding and summary activities to give students opportunities to develop and communicate their understanding. The support material for this is within Dynamic Learning which is a platform developed for Hodder to be used across a range of subjects and levels. For Science Progress, the subscription gives you electronic whiteboard versions of the student's books, the Teaching and Learning Resources (i.e. the Teacher's Resource) and copies of teach Better Biology, Chemistry and Physics. Teach Better is available separately, but only electronically, and is aimed at teachers to support their subject knowledge, unpick misconceptions, tackle differentiation, etc. A 30-day free trial to the Dynamic Learning package and an electronic inspection copy of the textbook is available but it is necessary to prioritise the evaluation of the materials as the link stops after 30 days.

COMPETENCY-BASED RESEARCH RESOURCES - 4

<u>Checkpoint Science</u>

Checkpoint is the name of the lower secondary course offered by Cambridge International Examinations. The Hodder books are by Peter D Riley and are widely used around the world. They are not based on a major research project (as was the case for Thinking Through Science) but they do reflect huge variation in equipment in different schools. All the practical activities are in the Teacher's Guide so that Teachers can pick and choose which ones to do. CUP publish as 3 books for 3 years as Hodder do but OUP publish as Complete Biology, Physics and Chemistry.

<u>ASE Science Practice</u>

It might be useful to look at three teachers' books produced by Hodder with the ASE on best practice in teaching the three separate sciences. They are aimed at newly qualified teachers or those being asked to teach a subject that is not their own, i.e. biologists teaching physics.

<u>Exploring Science</u>

The market leader in the UK for KS3 science is Exploring Science from Pearson/Longman and it has been popular for some time. It supports formative assessment and differentiation. It is considered to be a very solid bit of publishing.

COMPETENCY-BASED RESEARCH RESOURCES - 5

LANGUAGE

- **Amanda Harrington   Creative Writing for Kids**

- **Sally and Amanda Jones   Persuasive Writing and Argument**

- **Paul Johnson   Get Writing!**

- **Alison Wilcox   Descriptosaurus: Supporting Creative Writing for Ages 8-14, 2nd Edition**